

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\anat-scout\_ses-01p31

TA: 0:13 PAT: Off Voxel size: 1.1x1.0x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

|   |                              |                          |                  |
|---|------------------------------|--------------------------|------------------|
| Properties                                    |                              | Phase resolution         | 90 %             |
| Prio Recon                                    | Off                          | Phase partial Fourier    | Off              |
| Before measurement                            |                              | Interpolation            | On               |
| After measurement                             |                              | PAT mode                 | None             |
| Load to viewer                                | On                           | Image Filter             | Off              |
| Inline movie                                  | Off                          | Distortion Corr.         | Off              |
| Auto store images                             | On                           | Prescan Normalize        | Off              |
| Load to stamp segments                        | Off                          | Normalize                | On               |
| Load images to graphic segments               | Off                          | Intensity                | Medium           |
| Auto open inline display                      | Off                          | Cut off                  | 20               |
| Start measurement without further preparation | On                           | Width                    | 4                |
| Wait for user to start                        | On                           | Unfiltered images        | Off              |
| Start measurements                            | single                       | B1 filter                | Off              |
|   |                              | Raw filter               | Off              |
|   |                              | Elliptical filter        | On               |
|   |                              | Mode                     | Inplane          |
| Routine                                       |                              | Geometry                 |                  |
| Slice group 1                                 |                              | Multi-slice mode         | Sequential       |
| Slices  | 1                            | Series                   | Interleaved      |
| Dist. factor                                  | 20 %                         | Saturation mode          | Standard         |
| Position                                      | Isocenter                    | Special sat.             | None             |
| Orientation                                   | Sagittal                     | Table position           | H                |
| Phase enc. dir.                               | A >> P                       | Table position           | 0 mm             |
| Rotation                                      | 0.00 deg                     | Inline Composing         | Off              |
| Slice group 2                                 |                              | Tim CT mode              | Off              |
| Slices  | 1                            | System                   |                  |
| Dist. factor                                  | 20 %                         | 1H                       | On               |
| Position                                      | L0.0 A12.4 F6.6              | 31P                      | Off              |
| Orientation                                   | Transversal                  | Positioning mode         | REF              |
| Phase enc. dir.                               | A >> P                       | MSMA                     | S - C - T        |
| Rotation                                      | 0.00 deg                     | Sagittal                 | R >> L           |
| Slice group 3                                 |                              | Coronal                  | A >> P           |
| Slices  | 1                            | Transversal              | F >> H           |
| Dist. factor                                  | 20 %                         | Save uncombined          | On               |
| Position                                      | L0.0 A14.8 F24.5             | Coil Combine Mode        | Sum of Squares   |
| Orientation                                   | Coronal                      | AutoAlign                | ---              |
| Phase enc. dir.                               | R >> L                       | Auto Coil Select         | Default          |
| Rotation                                      | 0.00 deg                     | Shim mode                | Tune up          |
| Phase oversampling                            | 0 %                          | Adjust with body coil    | Off              |
| FoV read                                      | 250 mm                       | Confirm freq. adjustment | Off              |
| FoV phase                                     | 100.0 %                      | Assume Silicone          | Off              |
| Slice thickness                               | 7.0 mm                       | ! Ref. amplitude 1H      | 200.000 V        |
| TR  | 8.6 ms                       | Adjustment Tolerance     | Auto             |
| TE  | 4.00 ms                      | Adjust volume            |                  |
| Averages                                      | 2                            | ! Position               | L1.2 A10.8 F21.5 |
| Concatenations                                | 3                            | ! Orientation            | C > T39.5        |
| Filter  | Normalize, Elliptical filter | ! Rotation               | 90.00 deg        |
| Coil elements                                 | 1H                           | ! R >> L                 | 192 mm           |
| Contrast                                      |                              | ! F >> H                 | 167 mm           |
| TD  | 0 ms                         | ! A >> P                 | 191 mm           |
| MTC   | Off                          | Physio                   |                  |
| Magn. preparation                             | None                         | 1st Signal/Mode          | None             |
| Flip angle                                    | 20 deg                       | Segments                 | 1                |
| Fat suppr.                                    | None                         | Tagging                  | None             |
| Water suppr.                                  | None                         | Dark blood               | Off              |
| SWI   | Off                          | Resp. control            | Off              |
| Averaging mode                                | Short term                   |                          |                  |
| Reconstruction                                | Magnitude                    |                          |                  |
| Measurements                                  | 1                            |                          |                  |
| Multiple series                               | Each measurement             |                          |                  |
| Resolution                                    |                              |                          |                  |
| Base resolution                               | 256                          |                          |                  |

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## Inline

|                      |      |
|----------------------|------|
| Subtract             | Off  |
| Liver registration   | Off  |
| Std-Dev-Sag          | Off  |
| Std-Dev-Cor          | Off  |
| Std-Dev-Tra          | Off  |
| Std-Dev-Time         | Off  |
| MIP-Sag              | Off  |
| MIP-Cor              | Off  |
| MIP-Tra              | Off  |
| MIP-Time             | Off  |
| Save original images | On   |
| <hr/>                |      |
| Wash - In            | Off  |
| Wash - Out           | Off  |
| TTP                  | Off  |
| PEI                  | Off  |
| MIP - time           | Off  |
| <hr/>                |      |
| MapIt                | None |
| Contrasts            | 1    |

## Sequence

|                     |            |
|---------------------|------------|
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| <hr/>               |            |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\anat-scout\_ses-01p31

TA: 0:13 PAT: Off Voxel size: 1.1x1.0x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

|   |                              |                          |                  |
|---|------------------------------|--------------------------|------------------|
| Properties                                    |                              | Phase resolution         | 90 %             |
| Prio Recon                                    | Off                          | Phase partial Fourier    | Off              |
| Before measurement                            |                              | Interpolation            | On               |
| After measurement                             |                              | PAT mode                 | None             |
| Load to viewer                                | On                           | Image Filter             | Off              |
| Inline movie                                  | Off                          | Distortion Corr.         | Off              |
| Auto store images                             | On                           | Prescan Normalize        | Off              |
| Load to stamp segments                        | Off                          | Normalize                | On               |
| Load images to graphic segments               | Off                          | Intensity                | Medium           |
| Auto open inline display                      | Off                          | Cut off                  | 20               |
| Start measurement without further preparation | On                           | Width                    | 4                |
| Wait for user to start                        | On                           | Unfiltered images        | Off              |
| Start measurements                            | single                       | B1 filter                | Off              |
|   |                              | Raw filter               | Off              |
|   |                              | Elliptical filter        | On               |
|   |                              | Mode                     | Inplane          |
| Routine                                       |                              | Geometry                 |                  |
| Slice group 1                                 |                              | Multi-slice mode         | Sequential       |
| Slices  | 1                            | Series                   | Interleaved      |
| Dist. factor                                  | 20 %                         | Saturation mode          | Standard         |
| Position                                      | R1.8 A50.0 F13.4             | Special sat.             | None             |
| Orientation                                   | Sagittal                     | Table position           | H                |
| Phase enc. dir.                               | A >> P                       | Table position           | 0 mm             |
| Rotation                                      | 0.00 deg                     | Inline Composing         | Off              |
| Slice group 2                                 |                              | Tim CT mode              | Off              |
| Slices  | 1                            | System                   |                  |
| Dist. factor                                  | 20 %                         | 1H                       | On               |
| Position                                      | R1.8 A62.4 F20.0             | 31P                      | Off              |
| Orientation                                   | Transversal                  | Positioning mode         | REF              |
| Phase enc. dir.                               | A >> P                       | MSMA                     | S - C - T        |
| Rotation                                      | 0.00 deg                     | Sagittal                 | R >> L           |
| Slice group 3                                 |                              | Coronal                  | A >> P           |
| Slices  | 1                            | Transversal              | F >> H           |
| Dist. factor                                  | 20 %                         | Save uncombined          | On               |
| Position                                      | R1.8 A64.9 F37.9             | Coil Combine Mode        | Sum of Squares   |
| Orientation                                   | Coronal                      | AutoAlign                | ---              |
| Phase enc. dir.                               | R >> L                       | Auto Coil Select         | Default          |
| Rotation                                      | 0.00 deg                     | Shim mode                | Tune up          |
| Phase oversampling                            | 0 %                          | Adjust with body coil    | Off              |
| FoV read                                      | 250 mm                       | Confirm freq. adjustment | Off              |
| FoV phase                                     | 100.0 %                      | Assume Silicone          | Off              |
| Slice thickness                               | 7.0 mm                       | ! Ref. amplitude 1H      | 200.000 V        |
| TR  | 8.6 ms                       | Adjustment Tolerance     | Auto             |
| TE  | 4.00 ms                      | Adjust volume            |                  |
| Averages                                      | 2                            | ! Position               | R2.3 A48.3 F29.6 |
| Concatenations                                | 3                            | ! Orientation            | C > T39.5        |
| Filter  | Normalize, Elliptical filter | ! Rotation               | 90.00 deg        |
| Coil elements                                 | 1H                           | ! R >> L                 | 192 mm           |
|   |                              | ! F >> H                 | 167 mm           |
|   |                              | ! A >> P                 | 191 mm           |
| Contrast                                      |                              | Physio                   |                  |
| TD  | 0 ms                         | 1st Signal/Mode          | None             |
| MTC   | Off                          | Segments                 | 1                |
| Magn. preparation                             | None                         | Tagging                  | None             |
| Flip angle                                    | 20 deg                       | Dark blood               | Off              |
| Fat suppr.                                    | None                         | Resp. control            | Off              |
| Water suppr.                                  | None                         |                          |                  |
| SWI   | Off                          |                          |                  |
| Averaging mode                                | Short term                   |                          |                  |
| Reconstruction                                | Magnitude                    |                          |                  |
| Measurements                                  | 1                            |                          |                  |
| Multiple series                               | Each measurement             |                          |                  |
| Resolution                                    |                              |                          |                  |
| Base resolution                               | 256                          |                          |                  |

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## Inline

|                      |      |
|----------------------|------|
| Subtract             | Off  |
| Liver registration   | Off  |
| Std-Dev-Sag          | Off  |
| Std-Dev-Cor          | Off  |
| Std-Dev-Tra          | Off  |
| Std-Dev-Time         | Off  |
| MIP-Sag              | Off  |
| MIP-Cor              | Off  |
| MIP-Tra              | Off  |
| MIP-Time             | Off  |
| Save original images | On   |
| <hr/>                |      |
| Wash - In            | Off  |
| Wash - Out           | Off  |
| TTP                  | Off  |
| PEI                  | Off  |
| MIP - time           | Off  |
| <hr/>                |      |
| MapIt                | None |
| Contrasts            | 1    |

## Sequence

|                     |            |
|---------------------|------------|
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| <hr/>               |            |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\anat-scout\_ses-01p31

TA: 0:13 PAT: Off Voxel size: 1.7x1.6x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

|   |                              |                          |                  |
|---|------------------------------|--------------------------|------------------|
| Properties                                    |                              | Phase resolution         | 90 %             |
| Prio Recon                                    | Off                          | Phase partial Fourier    | Off              |
| Before measurement                            |                              | Interpolation            | On               |
| After measurement                             |                              | PAT mode                 | None             |
| Load to viewer                                | On                           | Image Filter             | Off              |
| Inline movie                                  | Off                          | Distortion Corr.         | Off              |
| Auto store images                             | On                           | Prescan Normalize        | Off              |
| Load to stamp segments                        | Off                          | Normalize                | On               |
| Load images to graphic segments               | Off                          | Intensity                | Medium           |
| Auto open inline display                      | Off                          | Cut off                  | 20               |
| Start measurement without further preparation | On                           | Width                    | 4                |
| Wait for user to start                        | On                           | Unfiltered images        | Off              |
| Start measurements                            | single                       | B1 filter                | Off              |
|   |                              | Raw filter               | Off              |
|   |                              | Elliptical filter        | On               |
|   |                              | Mode                     | Inplane          |
| Routine                                       |                              | Geometry                 |                  |
| Slice group 1                                 |                              | Multi-slice mode         | Sequential       |
| Slices  | 1                            | Series                   | Interleaved      |
| Dist. factor                                  | 20 %                         | Saturation mode          | Standard         |
| Position                                      | R1.8 A50.0 F13.4             | Special sat.             | None             |
| Orientation                                   | Sagittal                     | Table position           | H                |
| Phase enc. dir.                               | A >> P                       | Table position           | 0 mm             |
| Rotation                                      | 0.00 deg                     | Inline Composing         | Off              |
| Slice group 2                                 |                              | Tim CT mode              | Off              |
| Slices  | 1                            | System                   |                  |
| Dist. factor                                  | 20 %                         | 1H                       | On               |
| Position                                      | R1.8 A62.4 F20.0             | 31P                      | Off              |
| Orientation                                   | Transversal                  | Positioning mode         | REF              |
| Phase enc. dir.                               | A >> P                       | MSMA                     | S - C - T        |
| Rotation                                      | 0.00 deg                     | Sagittal                 | R >> L           |
| Slice group 3                                 |                              | Coronal                  | A >> P           |
| Slices  | 1                            | Transversal              | F >> H           |
| Dist. factor                                  | 20 %                         | Save uncombined          | On               |
| Position                                      | R1.8 A64.9 F37.9             | Coil Combine Mode        | Sum of Squares   |
| Orientation                                   | Coronal                      | AutoAlign                | ---              |
| Phase enc. dir.                               | R >> L                       | Auto Coil Select         | Default          |
| Rotation                                      | 0.00 deg                     | Shim mode                | Tune up          |
| Phase oversampling                            | 0 %                          | Adjust with body coil    | Off              |
| FoV read                                      | 400 mm                       | Confirm freq. adjustment | Off              |
| FoV phase                                     | 100.0 %                      | Assume Silicone          | Off              |
| Slice thickness                               | 7.0 mm                       | ! Ref. amplitude 1H      | 200.000 V        |
| TR  | 8.6 ms                       | Adjustment Tolerance     | Auto             |
| TE  | 4.00 ms                      | Adjust volume            |                  |
| Averages                                      | 2                            | ! Position               | R2.3 A48.3 F29.6 |
| Concatenations                                | 3                            | ! Orientation            | C > T39.5        |
| Filter  | Normalize, Elliptical filter | ! Rotation               | 90.00 deg        |
| Coil elements                                 | 1H                           | ! R >> L                 | 192 mm           |
|   |                              | ! F >> H                 | 167 mm           |
|   |                              | ! A >> P                 | 191 mm           |
| Contrast                                      |                              | Physio                   |                  |
| TD  | 0 ms                         | 1st Signal/Mode          | None             |
| MTC   | Off                          | Segments                 | 1                |
| Magn. preparation                             | None                         | Tagging                  | None             |
| Flip angle                                    | 20 deg                       | Dark blood               | Off              |
| Fat suppr.                                    | None                         | Resp. control            | Off              |
| Water suppr.                                  | None                         |                          |                  |
| SWI   | Off                          |                          |                  |
| Averaging mode                                | Short term                   |                          |                  |
| Reconstruction                                | Magnitude                    |                          |                  |
| Measurements                                  | 1                            |                          |                  |
| Multiple series                               | Each measurement             |                          |                  |
| Resolution                                    |                              |                          |                  |
| Base resolution                               | 256                          |                          |                  |

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## Inline

|                      |      |
|----------------------|------|
| Subtract             | Off  |
| Liver registration   | Off  |
| Std-Dev-Sag          | Off  |
| Std-Dev-Cor          | Off  |
| Std-Dev-Tra          | Off  |
| Std-Dev-Time         | Off  |
| MIP-Sag              | Off  |
| MIP-Cor              | Off  |
| MIP-Tra              | Off  |
| MIP-Time             | Off  |
| Save original images | On   |
| <hr/>                |      |
| Wash - In            | Off  |
| Wash - Out           | Off  |
| TTP                  | Off  |
| PEI                  | Off  |
| MIP - time           | Off  |
| <hr/>                |      |
| MapIt                | None |
| Contrasts            | 1    |

## Sequence

|                     |            |
|---------------------|------------|
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| <hr/>               |            |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|   |                       |                        |                  |
|---|-----------------------|------------------------|------------------|
| \\USER\SHBWPC-8922\SPA_31P\fastestmap         |                       |                        |                  |
| TA: 0:12                                      | Vol: 122 x169 x120 mm | Rel. SNR: 1.00         | USER: fastestmap |
| <b>Properties</b>                             |                       |                        |                  |
| Prio Recon                                    | Off                   | Rotation               | -90.00 deg       |
| Before measurement                            |                       | A >> P                 | 169 mm           |
| After measurement                             |                       | R >> L                 | 122 mm           |
| Load to viewer                                | On                    | F >> H                 | 120 mm           |
| Inline movie                                  | Off                   | <b>Physio</b>          |                  |
| Auto store images                             | On                    | 1st Signal/Mode        | None             |
| Load to stamp segments                        | Off                   | <b>Composing</b>       |                  |
| Load images to graphic segments               | Off                   | <b>Sequence</b>        |                  |
| Auto open inline display                      | Off                   | Delta frequency        | 0.0 ppm          |
| Start measurement without further preparation | On                    | Phase cycling          | None             |
| Wait for user to start                        | Off                   | Bandwidth              | 100000 Hz        |
| Start measurements                            | single                | Acquisition duration   | 2 ms             |
| <b>Routine</b>                                |                       |                        |                  |
| Position                                      | R1.5 A11.1 F11.9      | Type of fit            | Full 6-proj      |
| Orientation                                   | Transversal           | Vol fit factor         | 100 %            |
| Rotation                                      | -90.00 deg            | Refocus pulses         | Normal           |
| Vol R >> L                                    | 122 mm                | Excite pulse duration  | 6400 us          |
| Vol A >> P                                    | 169 mm                | Refocus pulse duration | 6400 us          |
| Vol F >> H                                    | 120 mm                | Bar FoV                | 384 mm           |
| TR  | 2000 ms               | Bar thickness          | 10.0 mm          |
| TE  | 49.20 ms              | Multi-echo acquisition | On               |
| Averages                                      | 1                     | Number of echoes       | 4                |
| Filter  | None                  | Inversion pulse        | Off              |
| Coil elements                                 | 1H                    |                        |                  |
| <b>Contrast</b>                               |                       |                        |                  |
| Tau   | 5.00 ms               |                        |                  |
| Excite flip angle                             | 90 deg                |                        |                  |
| Refocus flip angle                            | 180 deg               |                        |                  |
| Measurements                                  | 1                     |                        |                  |
| <b>Resolution</b>                             |                       |                        |                  |
| Vector size                                   | 256                   |                        |                  |
| <b>Geometry</b>                               |                       |                        |                  |
| Table position                                | H                     |                        |                  |
| Table position                                | 0 mm                  |                        |                  |
| Inline Composing                              | Off                   |                        |                  |
| <b>System</b>                                 |                       |                        |                  |
| 1H  | On                    |                        |                  |
| 31P   | Off                   |                        |                  |
| Positioning mode                              | REF                   |                        |                  |
| MSMA  | S - C - T             |                        |                  |
| Sagittal                                      | R >> L                |                        |                  |
| Coronal                                       | A >> P                |                        |                  |
| Transversal                                   | F >> H                |                        |                  |
| Save uncombined                               | Off                   |                        |                  |
| AutoAlign                                     | ---                   |                        |                  |
| Auto Coil Select                              | Default               |                        |                  |
| Shim mode                                     | Advanced              |                        |                  |
| Adj. water suppr.                             | Off                   |                        |                  |
| Adjust with body coil                         | Off                   |                        |                  |
| Confirm freq. adjustment                      | Off                   |                        |                  |
| Assume Silicone                               | Off                   |                        |                  |
| ! Ref. amplitude 1H                           | 75.000 V              |                        |                  |
| Adjustment Tolerance                          | Auto                  |                        |                  |
| Adjust volume                                 |                       |                        |                  |
| Position                                      | R1.5 A11.1 F11.9      |                        |                  |
| Orientation                                   | Transversal           |                        |                  |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|   |                  |   |  |  |
|---|------------------|---|--|--|
| \USER\SHB\WPC-8922\SPA_31P\anat-T1w_acq-raw   |                  |   |  |  |
| TA: 5:14                                      | PAT: Off         | Voxel size: 1.2x1.2x1.2 mm                    | Rel. SNR: 1.00   | SIEMENS: tfl   |
| Properties                                    |                  | Raw filter<br>Off<br>Elliptical filter<br>Off |  |  |
| Prio Recon                                    | Off              | Geometry                                      | Multi-slice mode<br>Single shot  |  |
| Before measurement                            |                  |   | Series<br>Interleaved  |  |
| After measurement                             |                  |   |  |  |
| Load to viewer                                | On               |   | Table position<br>H  |  |
| Inline movie                                  | Off              |   | Table position<br>0 mm   |  |
| Auto store images                             | On               |   | Inline Composing<br>Off  |  |
| Load to stamp segments                        | Off              | System  | 1H<br>31P  | On<br>Off  |
| Load images to graphic segments               | Off              |   | Positioning mode<br>MSMA<br>Sagittal<br>Coronal<br>Transversal<br>Save uncombined<br>Coil Combine Mode<br>AutoAlign<br>Auto Coil Select  | FIX<br>S - C - T<br>R >> L<br>A >> P<br>F >> H<br>Off<br>Sum of Squares<br>---   |
| Auto open inline display                      | Off              |   | Shim mode<br>Adjust with body coil<br>Confirm freq. adjustment<br>Assume Silicone<br>! Ref. amplitude 1H<br>Adjustment Tolerance<br>Adjust volume<br>! Position<br>! Orientation<br>! Rotation<br>! A >> P<br>! R >> L<br>! F >> H | Standard<br>Off<br>Off<br>Off<br>150.000 V<br>Auto<br>R1.5 A19.3 F6.4<br>Transversal<br>-90.00 deg<br>172 mm<br>140 mm<br>121 mm |
| Start measurement without further preparation | On               |   |  |  |
| Wait for user to start                        | On               | Contrast                                      |  |  |
| Start measurements                            | single           |   |  |  |
| Routine                                       |                  |   |  |  |
| Slab group 1                                  |                  |   |  |  |
| Slabs   | 1                |   |  |  |
| Dist. factor                                  | 50 %             |   |  |  |
| Position                                      | R3.1 A28.4 F24.2 |   |  |  |
| Orientation                                   | T > C-2.3 > S0.1 |   |  |  |
| Phase enc. dir.                               | R >> L           |   |  |  |
| Rotation                                      | 89.90 deg        |   |  |  |
| Phase oversampling                            | 0 %              |   |  |  |
| Slice oversampling                            | 33.3 %           |   |  |  |
| Slices per slab                               | 144              |   |  |  |
| FoV read                                      | 231 mm           |   |  |  |
| FoV phase                                     | 71.9 %           |   |  |  |
| Slice thickness                               | 1.20 mm          |   |  |  |
| TR  | 3000 ms          |   |  |  |
| TE  | 1.82 ms          |   |  |  |
| Averages                                      | 1                |   |  |  |
| Concatenations                                | 1                |   |  |  |
| Filter  | B1 filter        |   |  |  |
| Coil elements                                 | 1H               |   |  |  |
| Contrast                                      |                  |   |  |  |
| Magn. preparation                             | Slice-sel. IR    |   |  |  |
| TI  | 1200 ms          |   |  |  |
| Flip angle                                    | 8 deg            |   |  |  |
| Fat suppr.                                    | None             |   |  |  |
| Water suppr.                                  | None             |   |  |  |
| Averaging mode                                | Long term        |   |  |  |
| Reconstruction                                | Magnitude        |   |  |  |
| Measurements                                  | 1                |   |  |  |
| Multiple series                               | Off              |   |  |  |
| Resolution                                    |                  |   |  |  |
| Base resolution                               | 192              |   |  |  |
| Phase resolution                              | 100 %            |   |  |  |
| Slice resolution                              | 100 %            |   |  |  |
| Phase partial Fourier                         | 6/8              |   |  |  |
| Slice partial Fourier                         | 6/8              |   |  |  |
| Interpolation                                 | Off              |   |  |  |
| PAT mode                                      | None             |   |  |  |
| Image Filter                                  | Off              |   |  |  |
| Distortion Corr.                              | Off              |   |  |  |
| Prescan Normalize                             | Off              |   |  |  |
| Normalize                                     | Off              |   |  |  |
| B1 filter                                     | On               |   |  |  |
| Intensity                                     | Medium           |   |  |  |
| Unfiltered images                             | On               |   |  |  |
| Sequence                                      |                  |   |  |  |
| Introduction                                  |                  | On  |  |  |
| Dimension                                     |                  | 3D  |  |  |
| Elliptical scanning                           |                  | Off   |  |  |
| Asymmetric echo                               |                  | Allowed                                       |  |  |
| Bandwidth                                     |                  | 390 Hz/Px                                     |  |  |
| Flow comp.                                    |                  | No  |  |  |
| Echo spacing                                  |                  | 4.5 ms  |  |  |
| RF pulse type                                 |                  | Fast  |  |  |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|               |           |
|---------------|-----------|
| Gradient mode | Normal    |
| Excitation    | Slab-sel. |
| RF spoiling   | On        |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\mrs-mrsi\_acq-31Pv160

TA: 0:40

Voxel size: 340.0x340.0x50.0 mm

Rel. SNR: 1.00

USER: csi\_fid\_dt1300

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | On     |
| Start measurements                            | single |

|                          |                  |
|--------------------------|------------------|
| Shim mode                | Standard         |
| Adj. water suppr.        | Off              |
| Adjust with body coil    | Off              |
| Confirm freq. adjustment | Off              |
| Assume Silicone          | Off              |
| ? Ref. amplitude 31P     | 160.000 V        |
| ? Ref. amplitude 1H      | 0.000 V          |
| Adjustment Tolerance     | Auto             |
| Adjust volume            |                  |
| ! Position               | R1.5 A11.1 F11.9 |
| ! Orientation            | Transversal      |
| ! Rotation               | -90.00 deg       |
| ! A >> P                 | 169 mm           |
| ! R >> L                 | 122 mm           |
| ! F >> H                 | 120 mm           |

## Routine

|                  |                 |
|------------------|-----------------|
| Position         | L0.2 A11.7 H3.2 |
| Orientation      | Transversal     |
| Rotation         | 0 deg           |
| FoV R >> L       | 340 mm          |
| FoV A >> P       | 340 mm          |
| Thickness F >> H | 50 mm           |
| Vol R >> L       | 340 mm          |
| Vol A >> P       | 340 mm          |
| Slices           | 1               |
| TR               | 540 ms          |
| TE               | 1.0 ms          |
| Averages         | 64              |
| Filter           | Hamming         |
| Coil elements    | 31P             |

## Physio

|                       |             |
|-----------------------|-------------|
| 1st Signal/Mode       | None        |
| Composing             |             |
| Sequence              |             |
| Preparation scans     | 10          |
| Dimension             | 2D          |
| Delta frequency       | 0.0 ppm     |
| Phase encoding        | Weighted    |
| Acquisition delay     | 0.8 ms      |
| Bandwidth             | 8000 Hz     |
| Acquisition duration  | 128 ms      |
| Remove oversampling   | On          |
| TX/RX Nucleus         | 31P         |
| TX/RX delta frequency | 0 Hz        |
| NOE type              | Rectangular |
| NOE count             | 2           |
| NOE duration          | 5.0 ms      |
| NOE pause             | 10.0 ms     |
| NOE flip angle        | 90 deg      |
| TX Nucleus            | 1H          |
| TX delta frequency    | 0 Hz        |
| Decoupling type       | None        |

## Contrast

|                |            |
|----------------|------------|
| Averaging mode | Short term |
| Flip angle     | 90 deg     |
| Water suppr.   | None       |
| Measurements   | 1          |

|                       |      |
|-----------------------|------|
| Scan res. R >> L      | 1    |
| Scan res. A >> P      | 1    |
| Interpol. res. R >> L | 1    |
| Interpol. res. A >> P | 1    |
| Hamming               | On   |
| Width                 | 100  |
| Prescan Normalize     | Off  |
| Vector size           | 1024 |

## Resolution

|                  |      |
|------------------|------|
| Table position   | H    |
| Table position   | 0 mm |
| Inline Composing | Off  |

## System

|                  |           |
|------------------|-----------|
| 1H               | Off       |
| 31P              | On        |
| Positioning mode | FIX       |
| MSMA             | S - C - T |
| Sagittal         | R >> L    |
| Coronal          | A >> P    |
| Transversal      | F >> H    |
| Save uncombined  | Off       |
| AutoAlign        | ---       |
| Auto Coil Select | Default   |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\mrs-mrsi\_acq-31P

TA: 25:39

Voxel size: 24.3x24.3x24.3 mm

Rel. SNR: 1.00

USER: csi\_fid\_dt1300

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | On     |
| Start measurements                            | single |

## Routine

|               |                 |
|---------------|-----------------|
| Position      | L0.2 A11.7 H3.2 |
| Orientation   | Transversal     |
| Rotation      | 0 deg           |
| FoV R >> L    | 340 mm          |
| FoV A >> P    | 340 mm          |
| FoV F >> H    | 340 mm          |
| Vol R >> L    | 340 mm          |
| Vol A >> P    | 340 mm          |
| Vol F >> H    | 140 mm          |
| Slabs         | 1               |
| TR            | 540 ms          |
| TE            | 1.0 ms          |
| Averages      | 12              |
| Filter        | Hamming         |
| Coil elements | 31P             |

## Contrast

|                |            |
|----------------|------------|
| Averaging mode | Short term |
| Flip angle     | 90 deg     |
| Water suppr.   | None       |
| Measurements   | 1          |

## Resolution

|                       |      |
|-----------------------|------|
| Scan res. R >> L      | 14   |
| Scan res. A >> P      | 14   |
| Scan res. F >> H      | 14   |
| Interpol. res. R >> L | 16   |
| Interpol. res. A >> P | 16   |
| Interpol. res. F >> H | 16   |
| Hamming               | On   |
| Width                 | 100  |
| Prescan Normalize     | Off  |
| Vector size           | 1024 |

## Geometry

|                  |      |
|------------------|------|
| Table position   | H    |
| Table position   | 0 mm |
| Inline Composing | Off  |

## System

|                  |           |
|------------------|-----------|
| 1H               | Off       |
| 31P              | On        |
| Positioning mode | FIX       |
| MSMA             | S - C - T |
| Sagittal         | R >> L    |
| Coronal          | A >> P    |
| Transversal      | F >> H    |

Save uncombined

Off

AutoAlign

---

Auto Coil Select

Default

Shim mode

Standard

Adj. water suppr.

Off

Adjust with body coil

Off

Confirm freq. adjustment

Off

Assume Silicone

Off

? Ref. amplitude 31P

160.000 V

? Ref. amplitude 1H

0.000 V

Adjustment Tolerance

Auto

Adjust volume

! Position

R1.5 A11.1 F11.9

! Orientation

Transversal

! Rotation

-90.00 deg

! A >> P

169 mm

! R >> L

122 mm

! F >> H

120 mm

## Physio

1st Signal/Mode

None

## Composing

## Sequence

Preparation scans

10

Dimension

3D

Delta frequency

0.0 ppm

Phase encoding

Weighted

Acquisition delay

0.8 ms

Bandwidth

8000 Hz

Acquisition duration

128 ms

Remove oversampling

On

TX/RX Nucleus

31P

TX/RX delta frequency

0 Hz

NOE type

Rectangular

NOE count

2

NOE duration

5.0 ms

NOE pause

10.0 ms

NOE flip angle

90 deg

TX Nucleus

1H

TX delta frequency

0 Hz

Decoupling type

None

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\anat-scout\_acq-LD

TA: 1:56 PAT: Off Voxel size: 1.3x1.1x4.0 mm Rel. SNR: 1.00 SIEMENS: gre

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | Off    |
| Start measurements                            | single |

## Routine

|                    |                   |
|--------------------|-------------------|
| Slice group 1      |                   |
| Slices             | 85                |
| Dist. factor       | 0 %               |
| Position           | L1.9 A9.9 F1.2    |
| Orientation        | Transversal       |
| Phase enc. dir.    | R >> L            |
| Rotation           | 90.00 deg         |
| Phase oversampling | 0 %               |
| FoV read           | 340 mm            |
| FoV phase          | 100.0 %           |
| Slice thickness    | 4.0 mm            |
| TR                 | 449.0 ms          |
| TE                 | 2.46 ms           |
| Averages           | 1                 |
| Concatenations     | 1                 |
| Filter             | Elliptical filter |
| Coil elements      | 1H                |

## Contrast

|                   |                  |
|-------------------|------------------|
| MTC               | Off              |
| Magn. preparation | None             |
| Flip angle        | 47 deg           |
| Fat suppr.        | None             |
| Water suppr.      | None             |
| SWI               | Off              |
| Averaging mode    | Long term        |
| Reconstruction    | Magnitude        |
| Measurements      | 1                |
| Multiple series   | Each measurement |

## Resolution

|                       |         |
|-----------------------|---------|
| Base resolution       | 320     |
| Phase resolution      | 80 %    |
| Phase partial Fourier | Off     |
| Interpolation         | Off     |
| PAT mode              | None    |
| Image Filter          | Off     |
| Distortion Corr.      | Off     |
| Prescan Normalize     | Off     |
| Normalize             | Off     |
| B1 filter             | Off     |
| Raw filter            | Off     |
| Elliptical filter     | On      |
| Mode                  | Inplane |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Interleaved |
|------------------|-------------|

## Series

|                  |          |
|------------------|----------|
| Saturation mode  | Standard |
| Special sat.     | None     |
| Table position   | H        |
| Table position   | 0 mm     |
| Inline Composing | Off      |
| Tim CT mode      | Off      |

## System

|                          |                  |
|--------------------------|------------------|
| 1H                       | On               |
| 31P                      | Off              |
| Positioning mode         | FIX              |
| MSMA                     | S - C - T        |
| Sagittal                 | R >> L           |
| Coronal                  | A >> P           |
| Transversal              | F >> H           |
| Save uncombined          | Off              |
| Coil Combine Mode        | Adaptive Combine |
| AutoAlign                | ---              |
| Auto Coil Select         | Off              |
| Shim mode                | Standard         |
| Adjust with body coil    | Off              |
| Confirm freq. adjustment | Off              |
| Assume Silicone          | Off              |
| ! Ref. amplitude 1H      | 100.000 V        |
| Adjustment Tolerance     | Auto             |
| Adjust volume            |                  |
| ! Position               | R1.5 A11.1 F11.9 |
| ! Orientation            | Transversal      |
| ! Rotation               | -90.00 deg       |
| ! A >> P                 | 169 mm           |
| ! R >> L                 | 122 mm           |
| ! F >> H                 | 120 mm           |

## Physio

|                 |      |
|-----------------|------|
| 1st Signal/Mode | None |
| Segments        | 1    |
| Tagging         | None |
| Dark blood      | Off  |
| Resp. control   | Off  |

## Inline

|                      |      |
|----------------------|------|
| Subtract             | Off  |
| Liver registration   | Off  |
| Std-Dev-Sag          | Off  |
| Std-Dev-Cor          | Off  |
| Std-Dev-Tra          | Off  |
| Std-Dev-Time         | Off  |
| MIP-Sag              | Off  |
| MIP-Cor              | Off  |
| MIP-Tra              | Off  |
| MIP-Time             | Off  |
| Save original images | On   |
| Wash - In            | Off  |
| Wash - Out           | Off  |
| TTP                  | Off  |
| PEI                  | Off  |
| MIP - time           | Off  |
| Maplt                | None |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                     |            |
|---------------------|------------|
| Contrasts           | 1          |
| Sequence            |            |
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 330 Hz/Px  |
| Flow comp.          | No         |
| RF pulse type       | Fast       |
| Gradient mode       | Fast*      |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\anat-scout\_acq-shift

TA: 0:13 PAT: Off Voxel size: 1.1x1.0x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

## Properties

|   |        |
|---|--------|
| Prio Recon                                    | Off    |
| Before measurement                            |        |
| After measurement                             |        |
| Load to viewer                                | On     |
| Inline movie                                  | Off    |
| Auto store images                             | On     |
| Load to stamp segments                        | Off    |
| Load images to graphic segments               | Off    |
| Auto open inline display                      | Off    |
| Start measurement without further preparation | On     |
| Wait for user to start                        | On     |
| Start measurements                            | single |

## Routine

|                    |                              |
|--------------------|------------------------------|
| Slice group 1      |                              |
| Slices             | 1                            |
| Dist. factor       | 20 %                         |
| Position           | Isocenter                    |
| Orientation        | Sagittal                     |
| Phase enc. dir.    | A >> P                       |
| Rotation           | 0.00 deg                     |
| Slice group 2      |                              |
| Slices             | 1                            |
| Dist. factor       | 20 %                         |
| Position           | L0.0 A12.4 F6.6              |
| Orientation        | Transversal                  |
| Phase enc. dir.    | A >> P                       |
| Rotation           | 0.00 deg                     |
| Slice group 3      |                              |
| Slices             | 1                            |
| Dist. factor       | 20 %                         |
| Position           | L0.0 A14.8 F24.5             |
| Orientation        | Coronal                      |
| Phase enc. dir.    | R >> L                       |
| Rotation           | 0.00 deg                     |
| Phase oversampling | 0 %                          |
| FoV read           | 250 mm                       |
| FoV phase          | 100.0 %                      |
| Slice thickness    | 7.0 mm                       |
| TR                 | 8.6 ms                       |
| TE                 | 4.00 ms                      |
| Averages           | 2                            |
| Concatenations     | 3                            |
| Filter             | Normalize, Elliptical filter |
| Coil elements      | 1H                           |

## Contrast

|                   |                  |
|-------------------|------------------|
| TD                | 0 ms             |
| MTC               | Off              |
| Magn. preparation | None             |
| Flip angle        | 20 deg           |
| Fat suppr.        | None             |
| Water suppr.      | None             |
| SWI               | Off              |
| Averaging mode    | Short term       |
| Reconstruction    | Magnitude        |
| Measurements      | 1                |
| Multiple series   | Each measurement |

## Resolution

|                 |     |
|-----------------|-----|
| Base resolution | 256 |
|-----------------|-----|

|                       |         |
|-----------------------|---------|
| Phase resolution      | 90 %    |
| Phase partial Fourier | Off     |
| Interpolation         | On      |
| PAT mode              | None    |
| Image Filter          | Off     |
| Distortion Corr.      | Off     |
| Prescan Normalize     | Off     |
| Normalize             | On      |
| Intensity             | Medium  |
| Cut off               | 20      |
| Width                 | 4       |
| Unfiltered images     | Off     |
| B1 filter             | Off     |
| Raw filter            | Off     |
| Elliptical filter     | On      |
| Mode                  | Inplane |

## Geometry

|                  |             |
|------------------|-------------|
| Multi-slice mode | Sequential  |
| Series           | Interleaved |
| Saturation mode  | Standard    |
| Special sat.     | None        |
| Table position   | H           |
| Table position   | 0 mm        |
| Inline Composing | Off         |
| Tim CT mode      | Off         |

## System

|                          |                  |
|--------------------------|------------------|
| 1H                       | On               |
| 31P                      | Off              |
| Positioning mode         | REF              |
| MSMA                     | S - C - T        |
| Sagittal                 | R >> L           |
| Coronal                  | A >> P           |
| Transversal              | F >> H           |
| Save uncombined          | On               |
| Coil Combine Mode        | Sum of Squares   |
| AutoAlign                | ---              |
| Auto Coil Select         | Default          |
| Shim mode                | Tune up          |
| Adjust with body coil    | Off              |
| Confirm freq. adjustment | Off              |
| Assume Silicone          | Off              |
| ! Ref. amplitude 1H      | 200.000 V        |
| Adjustment Tolerance     | Auto             |
| Adjust volume            |                  |
| ! Position               | L1.2 A10.8 F21.5 |
| ! Orientation            | C > T39.5        |
| ! Rotation               | 90.00 deg        |
| ! R >> L                 | 192 mm           |
| ! F >> H                 | 167 mm           |
| ! A >> P                 | 191 mm           |

## Physio

|                 |      |
|-----------------|------|
| 1st Signal/Mode | None |
| Segments        | 1    |
| Tagging         | None |
| Dark blood      | Off  |
| Resp. control   | Off  |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

## Inline

|                      |      |
|----------------------|------|
| Subtract             | Off  |
| Liver registration   | Off  |
| Std-Dev-Sag          | Off  |
| Std-Dev-Cor          | Off  |
| Std-Dev-Tra          | Off  |
| Std-Dev-Time         | Off  |
| MIP-Sag              | Off  |
| MIP-Cor              | Off  |
| MIP-Tra              | Off  |
| MIP-Time             | Off  |
| Save original images | On   |
| <hr/>                |      |
| Wash - In            | Off  |
| Wash - Out           | Off  |
| TTP                  | Off  |
| PEI                  | Off  |
| MIP - time           | Off  |
| <hr/>                |      |
| MapIt                | None |
| Contrasts            | 1    |

## Sequence

|                     |            |
|---------------------|------------|
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| <hr/>               |            |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\localizer  
 TA: 0:13 PAT: Off Voxel size: 1.1x1.0x7.0 mm Rel. SNR: 1.00 SIEMENS: gre

| Properties                                    |                              | Phase resolution         | 90 %             |
|---|------------------------------|--------------------------|------------------|
| Prio Recon                                    | Off                          | Phase partial Fourier    | Off              |
| Before measurement                            |                              | Interpolation            | On               |
| After measurement                             |                              | PAT mode                 | None             |
| Load to viewer                                | On                           | Image Filter             | Off              |
| Inline movie                                  | Off                          | Distortion Corr.         | Off              |
| Auto store images                             | On                           | Prescan Normalize        | Off              |
| Load to stamp segments                        | Off                          | Normalize                | On               |
| Load images to graphic segments               | Off                          | Intensity                | Medium           |
| Auto open inline display                      | Off                          | Cut off                  | 20               |
| Start measurement without further preparation | On                           | Width                    | 4                |
| Wait for user to start                        | On                           | Unfiltered images        | Off              |
| Start measurements                            | single                       | B1 filter                | Off              |
|   |                              | Raw filter               | Off              |
|   |                              | Elliptical filter        | On               |
|   |                              | Mode                     | Inplane          |
| Routine                                       |                              | Geometry                 |                  |
| Slice group 1                                 |                              | Multi-slice mode         | Sequential       |
| Slices  | 1                            | Series                   | Interleaved      |
| Dist. factor                                  | 20 %                         | Saturation mode          | Standard         |
| Position                                      | R1.8 A50.0 F13.4             | Special sat.             | None             |
| Orientation                                   | Sagittal                     | Table position           | H                |
| Phase enc. dir.                               | A >> P                       | Table position           | 0 mm             |
| Rotation                                      | 0.00 deg                     | Inline Composing         | Off              |
| Slice group 2                                 |                              | Tim CT mode              | Off              |
| Slices  | 1                            | System                   |                  |
| Dist. factor                                  | 20 %                         | 1H                       | On               |
| Position                                      | R1.8 A62.4 F20.0             | 31P                      | Off              |
| Orientation                                   | Transversal                  | Positioning mode         | REF              |
| Phase enc. dir.                               | A >> P                       | MSMA                     | S - C - T        |
| Rotation                                      | 0.00 deg                     | Sagittal                 | R >> L           |
| Slice group 3                                 |                              | Coronal                  | A >> P           |
| Slices  | 1                            | Transversal              | F >> H           |
| Dist. factor                                  | 20 %                         | Save uncombined          | On               |
| Position                                      | R1.8 A64.9 F37.9             | Coil Combine Mode        | Sum of Squares   |
| Orientation                                   | Coronal                      | AutoAlign                | ---              |
| Phase enc. dir.                               | R >> L                       | Auto Coil Select         | Default          |
| Rotation                                      | 0.00 deg                     | Shim mode                | Tune up          |
| Phase oversampling                            | 0 %                          | Adjust with body coil    | Off              |
| FoV read                                      | 250 mm                       | Confirm freq. adjustment | Off              |
| FoV phase                                     | 100.0 %                      | Assume Silicone          | Off              |
| Slice thickness                               | 7.0 mm                       | ! Ref. amplitude 1H      | 200.000 V        |
| TR  | 8.6 ms                       | Adjustment Tolerance     | Auto             |
| TE  | 4.00 ms                      | Adjust volume            |                  |
| Averages                                      | 2                            | ! Position               | R2.3 A48.3 F29.6 |
| Concatenations                                | 3                            | ! Orientation            | C > T39.5        |
| Filter  | Normalize, Elliptical filter | ! Rotation               | 90.00 deg        |
| Coil elements                                 | 1H                           | ! R >> L                 | 192 mm           |
| Contrast                                      |                              | ! F >> H                 | 167 mm           |
| TD  | 0 ms                         | ! A >> P                 | 191 mm           |
| MTC   | Off                          | Physio                   |                  |
| Magn. preparation                             | None                         | 1st Signal/Mode          | None             |
| Flip angle                                    | 20 deg                       | Segments                 | 1                |
| Fat suppr.                                    | None                         | Tagging                  | None             |
| Water suppr.                                  | None                         | Dark blood               | Off              |
| SWI   | Off                          | Resp. control            | Off              |
| Averaging mode                                | Short term                   |                          |                  |
| Reconstruction                                | Magnitude                    |                          |                  |
| Measurements                                  | 1                            |                          |                  |
| Multiple series                               | Each measurement             |                          |                  |
| Resolution                                    |                              |                          |                  |
| Base resolution                               | 256                          |                          |                  |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

## Inline

|                      |      |
|----------------------|------|
| Subtract             | Off  |
| Liver registration   | Off  |
| Std-Dev-Sag          | Off  |
| Std-Dev-Cor          | Off  |
| Std-Dev-Tra          | Off  |
| Std-Dev-Time         | Off  |
| MIP-Sag              | Off  |
| MIP-Cor              | Off  |
| MIP-Tra              | Off  |
| MIP-Time             | Off  |
| Save original images | On   |
| <hr/>                |      |
| Wash - In            | Off  |
| Wash - Out           | Off  |
| TTP                  | Off  |
| PEI                  | Off  |
| MIP - time           | Off  |
| <hr/>                |      |
| MapIt                | None |
| Contrasts            | 1    |

## Sequence

|                     |            |
|---------------------|------------|
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| <hr/>               |            |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\localizer\_cs1

TA: 5.5 s PAT: Off Voxel size: 1.1x1.0x5.0 mm Rel. SNR: 1.00 SIEMENS: gre

|   |                              |                           |               |
|---|------------------------------|---------------------------|---------------|
| Properties                                    |                              | Elliptical filter<br>Mode | On<br>Inplane |
| Prio Recon                                    | Off                          |                           |               |
| Before measurement                            |                              |                           |               |
| After measurement                             |                              |                           |               |
| Load to viewer                                | On                           |                           |               |
| Inline movie                                  | Off                          |                           |               |
| Auto store images                             | On                           |                           |               |
| Load to stamp segments                        | Off                          |                           |               |
| Load images to graphic segments               | Off                          |                           |               |
| Auto open inline display                      | Off                          |                           |               |
| Start measurement without further preparation | On                           |                           |               |
| Wait for user to start                        | On                           |                           |               |
| Start measurements                            | single                       |                           |               |
| Routine                                       |                              |                           |               |
| Slice group 1                                 |                              |                           |               |
| Slices  | 1                            |                           |               |
| Dist. factor                                  | 20 %                         |                           |               |
| Position                                      | R1.8 A50.0 F13.4             |                           |               |
| Orientation                                   | Sagittal                     |                           |               |
| Phase enc. dir.                               | A >> P                       |                           |               |
| Rotation                                      | 0.00 deg                     |                           |               |
| Phase oversampling                            | 0 %                          |                           |               |
| FoV read                                      | 250 mm                       |                           |               |
| FoV phase                                     | 100.0 %                      |                           |               |
| Slice thickness                               | 5.0 mm                       |                           |               |
| TR  | 8.6 ms                       |                           |               |
| TE  | 4.00 ms                      |                           |               |
| Averages                                      | 2                            |                           |               |
| Concatenations                                | 1                            |                           |               |
| Filter  | Normalize, Elliptical filter |                           |               |
| Coil elements                                 | 1H                           |                           |               |
| Contrast                                      |                              |                           |               |
| MTC   | Off                          |                           |               |
| Magn. preparation                             | None                         |                           |               |
| Flip angle                                    | 20 deg                       |                           |               |
| Fat suppr.                                    | None                         |                           |               |
| Water suppr.                                  | None                         |                           |               |
| SWI   | Off                          |                           |               |
| Averaging mode                                | Short term                   |                           |               |
| Reconstruction                                | Magnitude                    |                           |               |
| Measurements                                  | 1                            |                           |               |
| Multiple series                               | Each measurement             |                           |               |
| Resolution                                    |                              |                           |               |
| Base resolution                               | 256                          |                           |               |
| Phase resolution                              | 90 %                         |                           |               |
| Phase partial Fourier                         | Off                          |                           |               |
| Interpolation                                 | On                           |                           |               |
| PAT mode                                      | None                         |                           |               |
| Image Filter                                  | Off                          |                           |               |
| Distortion Corr.                              | Off                          |                           |               |
| Prescan Normalize                             | Off                          |                           |               |
| Normalize                                     | On                           |                           |               |
| Intensity                                     | Medium                       |                           |               |
| Cut off                                       | 20                           |                           |               |
| Width   | 4                            |                           |               |
| Unfiltered images                             | Off                          |                           |               |
| B1 filter                                     | Off                          |                           |               |
| Raw filter                                    | Off                          |                           |               |
| Geometry                                      |                              |                           |               |
| Multi-slice mode                              | Sequential                   |                           |               |
| Series  | Interleaved                  |                           |               |
| Saturation mode                               | Standard                     |                           |               |
| Special sat.                                  | None                         |                           |               |
| Table position                                | H                            |                           |               |
| Table position                                | 0 mm                         |                           |               |
| Inline Composing                              | Off                          |                           |               |
| Tim CT mode                                   | Off                          |                           |               |
| System  |                              |                           |               |
| 1H  | On                           |                           |               |
| 31P   | Off                          |                           |               |
| Positioning mode                              | REF                          |                           |               |
| MSMA  | S - C - T                    |                           |               |
| Sagittal                                      | R >> L                       |                           |               |
| Coronal                                       | A >> P                       |                           |               |
| Transversal                                   | F >> H                       |                           |               |
| Save uncombined                               | On                           |                           |               |
| Coil Combine Mode                             | Sum of Squares               |                           |               |
| AutoAlign                                     | ---                          |                           |               |
| Auto Coil Select                              | Default                      |                           |               |
| Shim mode                                     | Tune up                      |                           |               |
| Adjust with body coil                         | Off                          |                           |               |
| Confirm freq. adjustment                      | Off                          |                           |               |
| Assume Silicone                               | Off                          |                           |               |
| ! Ref. amplitude 1H                           | 200.000 V                    |                           |               |
| Adjustment Tolerance                          | Auto                         |                           |               |
| Adjust volume                                 |                              |                           |               |
| ! Position                                    | R2.3 A48.3 F29.6             |                           |               |
| ! Orientation                                 | C > T39.5                    |                           |               |
| ! Rotation                                    | 90.00 deg                    |                           |               |
| ! R >> L                                      | 192 mm                       |                           |               |
| ! F >> H                                      | 167 mm                       |                           |               |
| ! A >> P                                      | 191 mm                       |                           |               |
| Physio  |                              |                           |               |
| 1st Signal/Mode                               | None                         |                           |               |
| Segments                                      | 1                            |                           |               |
| Tagging                                       | None                         |                           |               |
| Dark blood                                    | Off                          |                           |               |
| Resp. control                                 | Off                          |                           |               |
| Inline  |                              |                           |               |
| Subtract                                      | Off                          |                           |               |
| Liver registration                            | Off                          |                           |               |
| Std-Dev-Sag                                   | Off                          |                           |               |
| Std-Dev-Cor                                   | Off                          |                           |               |
| Std-Dev-Tra                                   | Off                          |                           |               |
| Std-Dev-Time                                  | Off                          |                           |               |
| MIP-Sag                                       | Off                          |                           |               |
| MIP-Cor                                       | Off                          |                           |               |
| MIP-Tra                                       | Off                          |                           |               |
| MIP-Time                                      | Off                          |                           |               |
| Save original images                          | On                           |                           |               |
| Wash - In                                     | Off                          |                           |               |
| Wash - Out                                    | Off                          |                           |               |
| TTP   | Off                          |                           |               |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                     |            |
|---------------------|------------|
| PEI                 | Off        |
| MIP - time          | Off        |
| MapIt               | None       |
| Contrasts           | 1          |
| Sequence            |            |
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Allowed    |
| Bandwidth           | 320 Hz/Px  |
| Flow comp.          | No         |
| RF pulse type       | Normal     |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\localizer\_cs2

TA: 0:11 PAT: Off Voxel size: 1.0x1.0x3.0 mm Rel. SNR: 1.00 SIEMENS: gre

|   |                  |                          |                  |
|---|------------------|--------------------------|------------------|
| Properties                                    |                  | Elliptical filter        | Off              |
| Prio Recon                                    | Off              | Geometry                 |                  |
| Before measurement                            |                  | Multi-slice mode         | Sequential       |
| After measurement                             |                  | Series                   | Interleaved      |
| Load to viewer                                | On               | Saturation mode          | Standard         |
| Inline movie                                  | Off              | Special sat.             | None             |
| Auto store images                             | On               | Table position           | H                |
| Load to stamp segments                        | Off              | Table position           | 0 mm             |
| Load images to graphic segments               | Off              | Inline Composing         | Off              |
| Auto open inline display                      | Off              | Tim CT mode              | Off              |
| Start measurement without further preparation | On               | System                   |                  |
| Wait for user to start                        | On               | 1H                       | On               |
| Start measurements                            | single           | 31P                      | Off              |
| Routine                                       |                  | Positioning mode         | REF              |
| Slice group 1                                 |                  | MSMA                     | S - C - T        |
| Slices  | 1                | Sagittal                 | R >> L           |
| Dist. factor                                  | 20 %             | Coronal                  | A >> P           |
| Position                                      | R1.8 A50.0 F13.4 | Transversal              | F >> H           |
| Orientation                                   | Sagittal         | Save uncombined          | On               |
| Phase enc. dir.                               | A >> P           | Coil Combine Mode        | Sum of Squares   |
| Rotation                                      | 0.00 deg         | AutoAlign                | ---              |
| Phase oversampling                            | 0 %              | Auto Coil Select         | Default          |
| FoV read                                      | 250 mm           | Shim mode                | Tune up          |
| FoV phase                                     | 100.0 %          | Adjust with body coil    | Off              |
| Slice thickness                               | 3.0 mm           | Confirm freq. adjustment | Off              |
| TR  | 6.0 ms           | Assume Silicone          | Off              |
| TE  | 2.60 ms          | ! Ref. amplitude 1H      | 200.000 V        |
| Averages                                      | 6                | Adjustment Tolerance     | Auto             |
| Concatenations                                | 1                | Adjust volume            |                  |
| Filter  | Normalize        | ! Position               | R2.3 A48.3 F29.6 |
| Coil elements                                 | 1H               | ! Orientation            | C > T39.5        |
| Contrast                                      |                  | ! Rotation               | 90.00 deg        |
| MTC   | Off              | ! R >> L                 | 192 mm           |
| Magn. preparation                             | None             | ! F >> H                 | 167 mm           |
| Flip angle                                    | 15 deg           | ! A >> P                 | 191 mm           |
| Fat suppr.                                    | None             | Physio                   |                  |
| Water suppr.                                  | None             | 1st Signal/Mode          | None             |
| SWI   | Off              | Segments                 | 1                |
| Averaging mode                                | Short term       | Tagging                  | None             |
| Reconstruction                                | Magnitude        | Dark blood               | Off              |
| Measurements                                  | 1                | Resp. control            | Off              |
| Multiple series                               | Each measurement | Inline                   |                  |
| Resolution                                    |                  | Subtract                 | Off              |
| Base resolution                               | 256              | Liver registration       | Off              |
| Phase resolution                              | 100 %            | Std-Dev-Sag              | Off              |
| Phase partial Fourier                         | Off              | Std-Dev-Cor              | Off              |
| Interpolation                                 | On               | Std-Dev-Tra              | Off              |
| PAT mode                                      | None             | Std-Dev-Time             | Off              |
| Image Filter                                  | Off              | MIP-Sag                  | Off              |
| Distortion Corr.                              | Off              | MIP-Cor                  | Off              |
| Prescan Normalize                             | Off              | MIP-Tra                  | Off              |
| Normalize                                     | On               | MIP-Time                 | Off              |
| Intensity                                     | Medium           | Save original images     | On               |
| Cut off                                       | 20               | Wash - In                | Off              |
| Width   | 4                | Wash - Out               | Off              |
| Unfiltered images                             | Off              | TTP                      | Off              |
| B1 filter                                     | Off              | PEI                      | Off              |
| Raw filter                                    | Off              |                          |                  |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                     |            |
|---------------------|------------|
| MIP - time          | Off        |
| MapIt               | None       |
| Contrasts           | 1          |
| Sequence            |            |
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Off        |
| Bandwidth           | 360 Hz/Px  |
| Flow comp.          | No         |
| RF pulse type       | Fast       |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\\USER\\SHB\\WPC-8922\\SPA\_31P\\localizer\_cs3  
 TA: 0:40 PAT: Off Voxel size: 1.0x1.0x2.0 mm Rel. SNR: 1.00 SIEMENS: gre

|   |                  |                          |                  |
|---|------------------|--------------------------|------------------|
| Properties                                    |                  | Raw filter               | Off              |
| Prio Recon                                    | Off              | Elliptical filter        | Off              |
| Geometry                                      |                  |                          |                  |
| Before measurement                            |                  | Multi-slice mode         | Sequential       |
| After measurement                             |                  | Series                   | Interleaved      |
| Load to viewer                                | On               | Saturation mode          | Standard         |
| Inline movie                                  | Off              | Special sat.             | None             |
| Auto store images                             | On               | Table position           | H                |
| Load to stamp segments                        | Off              | Table position           | 0 mm             |
| Load images to graphic segments               | Off              | Inline Composing         | Off              |
| Auto open inline display                      | Off              | Tim CT mode              | Off              |
| Start measurement without further preparation | On               |                          |                  |
| Wait for user to start                        | On               |                          |                  |
| Start measurements                            | single           |                          |                  |
| Routine                                       |                  | System                   |                  |
| Slice group 1                                 |                  | 1H                       | On               |
| Slices  | 5                | 31P                      | Off              |
| Dist. factor                                  | 10 %             | Positioning mode         | REF              |
| Position                                      | R1.8 A50.0 F13.4 | MSMA                     | S - C - T        |
| Orientation                                   | Sagittal         | Sagittal                 | R >> L           |
| Phase enc. dir.                               | A >> P           | Coronal                  | A >> P           |
| Rotation                                      | 0.00 deg         | Transversal              | F >> H           |
| Phase oversampling                            | 0 %              | Save uncombined          | On               |
| FoV read                                      | 250 mm           | Coil Combine Mode        | Sum of Squares   |
| FoV phase                                     | 100.0 %          | AutoAlign                | ---              |
| Slice thickness                               | 2.0 mm           | Auto Coil Select         | Default          |
| TR  | 6.0 ms           | Shim mode                | Tune up          |
| TE  | 3.00 ms          | Adjust with body coil    | Off              |
| Averages                                      | 5                | Confirm freq. adjustment | Off              |
| Concatenations                                | 5                | Assume Silicone          | Off              |
| Filter  | Normalize        | ! Ref. amplitude 1H      | 200.000 V        |
| Coil elements                                 | 1H               | Adjustment Tolerance     | Auto             |
| Contrast                                      |                  | Adjust volume            |                  |
| TD  | 0 ms             | ! Position               | R2.3 A48.3 F29.6 |
| MTC   | Off              | ! Orientation            | C > T39.5        |
| Magn. preparation                             | None             | ! Rotation               | 90.00 deg        |
| Flip angle                                    | 15 deg           | ! R >> L                 | 192 mm           |
| Fat suppr.                                    | None             | ! F >> H                 | 167 mm           |
| Water suppr.                                  | None             | ! A >> P                 | 191 mm           |
| SWI   | Off              |                          |                  |
| Physio  |                  |                          |                  |
| Averaging mode                                | Short term       | 1st Signal/Mode          | None             |
| Reconstruction                                | Magnitude        | Segments                 | 1                |
| Measurements                                  | 1                | Tagging                  | None             |
| Multiple series                               | Each measurement | Dark blood               | Off              |
| Resolution                                    |                  | Resp. control            | Off              |
| Base resolution                               | 256              |                          |                  |
| Phase resolution                              | 100 %            |                          |                  |
| Phase partial Fourier                         | Off              |                          |                  |
| Interpolation                                 | On               |                          |                  |
| Inline  |                  |                          |                  |
| PAT mode                                      | None             | Subtract                 | Off              |
| Image Filter                                  | Off              | Liver registration       | Off              |
| Distortion Corr.                              | Off              | Std-Dev-Sag              | Off              |
| Prescan Normalize                             | Off              | Std-Dev-Cor              | Off              |
| Normalize                                     | On               | Std-Dev-Tra              | Off              |
| Intensity                                     | Medium           | Std-Dev-Time             | Off              |
| Cut off                                       | 20               | MIP-Sag                  | Off              |
| Width   | 4                | MIP-Cor                  | Off              |
| Unfiltered images                             | Off              | MIP-Tra                  | Off              |
| B1 filter                                     | Off              | MIP-Time                 | Off              |
|   |                  | Save original images     | On               |
|   |                  | Wash - In                | Off              |
|   |                  | Wash - Out               | Off              |
|   |                  | TTP                      | Off              |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|                     |            |
|---------------------|------------|
| PEI                 | Off        |
| MIP - time          | Off        |
| MapIt               | None       |
| Contrasts           | 1          |
| Sequence            |            |
| Introduction        | On         |
| Dimension           | 2D         |
| Phase stabilisation | Off        |
| Asymmetric echo     | Off        |
| Bandwidth           | 360 Hz/Px  |
| Flow comp.          | No         |
| RF pulse type       | Fast       |
| Gradient mode       | Normal     |
| Excitation          | Slice-sel. |
| RF spoiling         | On         |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

\USER\SHB\WPC-8922\SPA\_31P\anat-T1w\_acq-long

TA: 6:56 PAT: Off Voxel size: 1.0x1.0x1.0 mm Rel. SNR: 1.00 SIEMENS: tfl

|   |                  |                          |                |
|---|------------------|--------------------------|----------------|
| Properties                                    |                  | Raw filter               | Off            |
| Prio Recon                                    | Off              | Elliptical filter        | Off            |
| Geometry                                      |                  |                          |                |
| Before measurement                            | Multi-slice mode |                          | Single shot    |
| After measurement                             | Series           |                          | Interleaved    |
| Load to viewer                                | Table position   |                          | H              |
| Inline movie                                  | Table position   |                          | 0 mm           |
| Auto store images                             | Inline Composing |                          | Off            |
| Load to stamp segments                        | System           |                          |                |
| Load images to graphic segments               | 1H               |                          | On             |
| Auto open inline display                      | 31P              |                          | Off            |
| Start measurement without further preparation | Positioning mode |                          | FIX            |
| Wait for user to start                        | MSMA             |                          | S - C - T      |
| Start measurements                            | Sagittal         |                          | R >> L         |
| Routine                                       |                  | Coronal                  | A >> P         |
| Slab group 1                                  | Transversal      |                          | F >> H         |
| Slabs   | 1                | Save uncombined          | Off            |
| Dist. factor                                  | 50 %             | Coil Combine Mode        | Sum of Squares |
| Position                                      | L0.2 A11.7 H3.2  | AutoAlign                | ---            |
| Orientation                                   | Transversal      | Auto Coil Select         | Default        |
| Phase enc. dir.                               | R >> L           | Shim mode                |                |
| Rotation                                      | 90.00 deg        | Standard                 |                |
| Phase oversampling                            | 0 %              | Adjust with body coil    |                |
| Slice oversampling                            | 40.0 %           | Off                      |                |
| Slices per slab                               | 160              | Confirm freq. adjustment |                |
| FoV read                                      | 256 mm           | Off                      |                |
| FoV phase                                     | 71.9 %           | Assume Silicone          |                |
| Slice thickness                               | 1.00 mm          | Off                      |                |
| TR  | 3000 ms          | ! Ref. amplitude 1H      |                |
| TE  | 1.87 ms          | 150.000 V                |                |
| Averages                                      | 1                | Adjustment Tolerance     |                |
| Concatenations                                | 1                | Auto                     |                |
| Filter  | B1 filter        | Adjust volume            |                |
| Coil elements                                 | 1H               | ! Position               |                |
| Contrast                                      |                  | R1.5 A11.1 F11.9         |                |
| Magn. preparation                             | Slice-sel. IR    | Transversal              |                |
| TI  | 1200 ms          | ! Orientation            |                |
| Flip angle                                    | 8 deg            | -90.00 deg               |                |
| Fat suppr.                                    | None             | 169 mm                   |                |
| Water suppr.                                  | None             | 122 mm                   |                |
| Resolution                                    |                  | 120 mm                   |                |
| Base resolution                               | 256              | Physio                   |                |
| Phase resolution                              | 100 %            | 1st Signal/Mode          | None           |
| Slice resolution                              | 100 %            | Dark blood               | Off            |
| Phase partial Fourier                         | 6/8              | Resp. control            | Off            |
| Slice partial Fourier                         | 6/8              | Inline                   |                |
| Interpolation                                 | Off              | Subtract                 | Off            |
| PAT mode                                      |                  | Std-Dev-Sag              | Off            |
| Image Filter                                  | None             | Std-Dev-Cor              | Off            |
| Distortion Corr.                              | Off              | Std-Dev-Tra              | Off            |
| Prescan Normalize                             | Off              | Std-Dev-Time             | Off            |
| Normalize                                     | Off              | MIP-Sag                  | Off            |
| B1 filter                                     | On               | MIP-Cor                  | Off            |
| Intensity                                     | Medium           | MIP-Tra                  | Off            |
| Unfiltered images                             | On               | MIP-Time                 | Off            |
| Sequence                                      |                  | Save original images     | On             |
| Introduction                                  | Sequence         |                          | On             |
| Dimension                                     | 3D               |                          | 3D             |
| Elliptical scanning                           | Off              |                          | Off            |
| Asymmetric echo                               | Allowed          |                          | Allowed        |
| Bandwidth                                     | 390 Hz/Px        |                          | 390 Hz/Px      |
| Flow comp.                                    | No               |                          | No             |
| Echo spacing                                  | 4.5 ms           |                          | 4.5 ms         |
| RF pulse type                                 | Fast             |                          | Fast           |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

|               |           |
|---------------|-----------|
| Gradient mode | Normal    |
| Excitation    | Slab-sel. |
| RF spoiling   | On        |

# SIEMENS MAGNETOM Investigational\_Device\_7T syngo MR B17

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